

1 using UNE-P. In performing the analysis to arrive at that conclusion, I identified  
2 all of the costs that are incurred when serving a multi-line POTS customer with a  
3 DS1 based service and divided that total cost by the cost of a single UNE-P line.  
4 The result of that calculation rounded up to the next whole number is the cross  
5 over point.

6 **B. Cross Over Point From Mass Market to Enterprise**

7 **Q. PLEASE IDENTIFY THE FUNDAMENTAL CROSS OVER POINT ISSUE**  
8 **THE FCC ASKED STATE COMMISSIONS TO ADDRESS.**

9 A. The fundamental issue the FCC tasked the state commissions with addressing was  
10 how should the "mass market" be distinguished from the "enterprise market?"<sup>1</sup>  
11 The FCC identified the cross over issue in the section of the *TRO* that is  
12 concerned with defining the market.<sup>2</sup>

13 **Q. DID THE FCC SUGGEST UNITS THAT COULD BE USED IN**  
14 **DISTINGUISHING THE MASS AND ENTERPRISE MARKETS?**

15 A. Yes, it did. The FCC suggested that the number of DS0 lines a customer uses at a  
16 particular location would be an appropriate unit for the cross over analysis.  
17 Specifically, the FCC stated, "as part of the economic and operational analysis  
18 discussed below, a state must determine the appropriate cut-off for multi-line DS0

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<sup>1</sup> *In the Matter of Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers, Implementation of the Local Competition Provisions of the Telecommunications Act of 1996, and Deployment of Wireline Services Offering Advanced Telecommunications Capability*, CC Docket Nos. 01-338, 96-98 & 98-147, Report and Order and Order on Remand and Further Notice of Proposed Rulemaking, FCC 03-36, ¶ 497 (released Aug. 21, 2003) ("*Triennial Review Order*" or "*TRO*").

<sup>2</sup> *Id.*, ¶¶ 495-497.

1 customers as part of its more granular review.”<sup>3</sup> The FCC asked the state  
2 commissions to identify the number of DS0 lines needed at a particular customer  
3 location before the customer crosses over from the mass market to the enterprise  
4 market.

5 **Q. WHAT ARE THE CHARACTERISTICS OF MASS MARKET**  
6 **CUSTOMERS?**

7 A. The mass market customer base is: (a) primarily interested in basic voice POTS  
8 service<sup>4</sup>; (b) widely geographically dispersed<sup>5</sup>; and (c) unaccustomed to complex  
9 or disruptive provisioning schemes.<sup>6</sup> The *TRO* recognizes each of these  
10 characteristics when it distinguishes mass market from enterprise customers. For  
11 purposes of the switching impairment analysis, the FCC stated “mass market  
12 customers are analog voice customers that purchase only a limited number of  
13 POTS lines, and can only be economically served via DS0 lines.”<sup>7</sup> Mass market  
14 customers are not located exclusively in concentrated geographic locations such  
15 as central business districts; rather residential and small business customers are  
16 located across all urban, suburban, and rural locations. These customers expect  
17 that using their telephone services, as well as changing service providers, should

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<sup>3</sup> *Id.*, ¶ 497.

<sup>4</sup> *Id.*

<sup>5</sup> *Id.*, ¶ 205.

<sup>6</sup> *Id.*, n. 716.

<sup>7</sup> *TRO*, ¶ 497. *See also TRO*, ¶ 127 (“Mass market customers consist of residential customers and very small business customers. Mass market customers typically purchase ordinary switched voice service (Plain Old Telephone Service or POTS) and a few vertical features.”)

1           **F.     Conclusion**

2   **Q.     WHAT ARE YOUR OVERALL CONCLUSIONS FOR THE CROSS OVER**  
3   **POINT?**

4   A.     When a fact-based, quantitative analysis is performed using cost information from  
5           this state, the point at which it is economically rational for a CLEC to use a DS1  
6           based service is when a customer 10 or more lines. The evidence used to arrive at  
7           this conclusion is objective and quantitative and the analysis performed was  
8           granular, specific to this state and representative of how a CLEC would view a  
9           decision to serve a customer with UNE-P or a DS1 based service. As previously  
10          discussed, the Commission can easily use the analysis to calculate cross over  
11          points for whatever markets the Commission eventually identifies.

12 **Q.     DOES THIS CONCLUDE YOUR TESTIMONY?**

13 A.     Yes, it does.

**BEFORE THE NEW MEXICO PUBLIC REGULATION COMMISSION**

**IN THE MATTER OF IMPLEMENTATION )  
OF A BATCH CUT PROCESS )**

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**Case No. 03-00403-UT**

**AND**

**IN THE MATTER OF IMPAIRMENT )  
IN ACCESS TO LOCAL CIRCUIT )  
SWITCHING FOR MASS MARKET )  
CUSTOMERS )**

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**Case No. 03-00404-UT**

**DIRECT TESTIMONY OF**

**DOUGLAS DENNEY**

**ON BEHALF OF**

**AT&T COMMUNICATIONS OF THE MOUNTAIN STATES, INC.,**

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**DSO COST TOOL**

**February 16, 2004**

**NMPRC  
STAFF EXHIBIT**

**D**

**Page 56 of 114**

1 models, and the FCC's Synthesis Model. I have also testified about issues  
2 relating to the wholesale cost of local service -- including universal service  
3 funding, unbundled network element pricing, geographic deaveraging, and  
4 competitive local exchange carrier access rates.

5 **II. PURPOSE AND SUMMARY OF TESTIMONY**

6 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

7 A. The purpose of my Direct Testimony is to describe and quantify the significant  
8 cost disadvantages, as recognized by the Federal Communications Commission  
9 ("FCC") in the Triennial Review Order, that an efficient competitive local  
10 exchange carrier ("CLEC") would confront in attempting to serve mass-market  
11 customers if continued access to unbundled local switching and the unbundled  
12 network element platform ("UNE-P") were denied.<sup>1</sup> To make this quantification,  
13 I employ the DS0 Impairment Analysis Tools ("Tools") developed by AT&T, and  
14 I explain why the Tools are the appropriate analytical framework to use in  
15 establishing the "cost disadvantage" for any efficient CLEC, describe how the  
16 Tools have been used to quantify that cost, and report the per line "cost  
17 disadvantage" quantified by the Tools for CLECS in New Mexico's LATA.

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<sup>1</sup> *In the Matter of Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers, Implementation of the Local Competition Provisions of the Telecommunications Act of 1996, and Deployment of Wireline Services Offering Advanced Telecommunications Capability*, CC Docket Nos. 01-338, 96-98 & 98-147, Report and Order and Order on Remand and Further Notice of Proposed Rulemaking, FCC 03-36 (rel. Aug. 21, 2003) ("Triennial Review Order" or "TRO").

1   **Q.   HOW IS YOUR TESTIMONY ORGANIZED?**

2   A.   This Section, Section II, summarizes the remainder of this testimony and the  
3       range of the cost of impairment an efficient CLEC would incur if it were required  
4       to serve the mass-market using its own switches and Qwest's unbundled Loops  
5       ("UNE-L") in Qwest's operating territory in New Mexico. Section III provides  
6       an overview of the network architecture that would be deployed -- absent access  
7       to UNE-P -- by an efficient CLEC relegated to providing service using UNE-L to  
8       the mass-market and how that network architecture compares with the incumbent  
9       Local Exchange Carrier's ("ILEC's") network design. Section III also  
10      summarizes the cost impact of the CLEC's differing network design, how I have  
11      quantified this cost differential using the Tools, and why the Tools are appropriate  
12      for determining an efficient CLEC's cost disadvantage vis-à-vis Qwest. Section  
13      IV explains in greater detail each tool that comprises the Tools. In doing so,

1    **Q     PLEASE SUMMARIZE THE CLEC COST DISADVANTAGE FOR NEW**  
2       **MEXICO.**

3    A.   As indicated in the previous discussion, the Tools rely upon specified inputs for  
4       each of the calculations leading to the additional cost disadvantage an efficient  
5       CLEC would incur entering the mass-market. Overall, these inputs are  
6       conservative because (1) they focus only on major components of impairment and  
7       ignore other sources of impairment, (2) assume enterprise customers will defray a  
8       significant proportion of the costs of back-haul transport and collocation, and (3)  
9       ignore many of the costs that an efficient CLEC would spend for customer  
10      acquisition.

11      The results of my analyses, by geographic market, are set forth in Exhibit DD-4  
12      and are summarized in Table 2 below.

**Table 2: CLEC Cost Disadvantage per Line per LATA**

LATA	CLEC Cost Disadvantage per Line per Month
664	\$18.90

13      Based upon the calculations performed by the Tools and my analysis, an efficient  
14      CLEC that uses self-provided switching and UNE-L would face substantial  
15      additional costs as compared to Qwest in each geographic market served by  
16      Qwest and it is inescapable that cost disadvantages of this magnitude to the CLEC

1           – and corresponding cost umbrella for the ILEC – constitute a clear barrier to  
2           entry.

3    **Q.    DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

4    **A.    Yes.**



**BEFORE THE NEW MEXICO PUBLIC REGULATION COMMISSION**

**IN THE MATTER OF IMPLEMENTATION )  
OF A BATCH CUT PROCESS )  
\_\_\_\_\_ )**

**Case No. 03-00403-UT**

**AND**

**IN THE MATTER OF IMPAIRMENT )  
IN ACCESS TO LOCAL CIRCUIT )  
SWITCHING FOR MASS MARKET )  
CUSTOMERS )  
\_\_\_\_\_ )**

**Case No. 03-00404-UT**

**DIRECT TESTIMONY**

**OF**

**MICHAEL R. BARANOWSKI**

**ON BEHALF OF**

**AT&T COMMUNICATIONS OF THE MOUNTAIN STATES, INC.**

**BUSINESS CASE**

**February 16, 2004**

1 can economically serve markets without access to certain unbundled network  
2 elements.

3 I also have experience with other network industries. I have nearly 20 years of  
4 experience consulting to the nation's major railroads and petroleum products  
5 pipelines on a variety of issues, including economic and financial studies of  
6 pricing, costing, and mergers and acquisitions.

7 **II. INTRODUCTION, PURPOSE, AND STRUCTURE OF TESTIMONY**

8 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

9 A. The purpose of my testimony is to present the results of AT&T's Business Case  
10 Analysis Tool ("BCAT") that is used to demonstrate the economic impairment  
11 that would be suffered by an efficient CLEC providing service to mass market  
12 consumers in New Mexico if unbundled switching is unavailable. My testimony  
13 provides an overview of the BCAT, certain key assumptions, and an analysis of  
14 the results. The BCAT is relevant to the assessment of potential competition and  
15 is consistent with the FCC's recent Triennial Review Order ("TRO")<sup>1</sup> and the  
16 economic and regulatory framework for assessing impairment as explained in the  
17 testimony of Drs. William Lehr and Lee Selwyn.<sup>2</sup>

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<sup>1</sup> *Report and Order and Order on Remand and Further Notice of Proposed Rulemaking*, In the Matter of Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers, Federal Communications Commission, CC Docket No. 01-338, (Released August 21, 2003.) ("TRO").

<sup>2</sup> See *Direct Testimony of William H. Lehr and Lee L. Selwyn on Behalf of AT&T*, In the Matter of the Implementation of the Federal Communications Commission's Triennial Review Order Adopting New Rules for Network Unbundling Obligations, Before the Public Regulation Commission of the State of New Mexico, Case Nos. 03-00403-UT and 03-00404-UT, February 9, 2004 (hereafter, referred to as "Testimony of Drs. Lehr and Selwyn").

1   **Q.   PLEASE SUMMARIZE THE MAIN CONCLUSIONS YOU REACH IN**  
2       **YOUR TESTIMONY.**

3   A.   The principal conclusions that are explained in my testimony include the  
4       following:

5   (1)   Efficient CLEC entry to serve mass market customers in New Mexico would be  
6       unprofitable without access to unbundled switching. A CLEC should expect to  
7       realize large negative returns if it attempted to execute the efficient business plan.

8   (2)   The BCAT provides a conservative estimate of the likely economic losses  
9       associated with seeking to serve mass market consumers without unbundled  
10      switching in New Mexico. Actual losses would likely be larger.

11   (3)   The BCAT model uses the best available, verifiable data in its formulation. This  
12      includes relying on granular, New Mexico-specific inputs wherever possible.  
13      This is consistent with the TRO and its proper application as explained in Drs.  
14      Lehr and Selwyn's testimony.

15   **Q.   HOW IS THE REST OF YOUR TESTIMONY ORGANIZED?**

16   A.   The balance of my testimony is organized into the following three sections:  
17      Section III provides an overview of the BCAT and summarizes the main results;  
18      Section IV provides a more detailed discussion of the business case for potential  
19      CLEC competition that demonstrates impairment in the absence of unbundled  
20      switching for mass market customers; Section V is the conclusion. **Exhibit**  
21      **MRB-1** to my testimony includes the BCAT and the results for New Mexico, and  
22      **Exhibit MRB-2** contains the inputs document for the BCAT.

1   **Q.    HOW DOES THE BCAT DEVELOP COSTS ASSOCIATED WITH**  
2       **UNCOLLECTIBLE REVENUE?**

3    A.    A portion of customer revenues is never collected by carriers, including the  
4           hypothetical efficient CLEC, because of customer bankruptcy, refusal to pay due  
5           to dispute, or service abandonment. The BCAT incorporates these costs by  
6           applying separate uncollectible rates (percentages) to retail revenues, access  
7           revenues and reciprocal compensation revenues. To be conservative, the BCAT  
8           relies on ARMIS data on uncollectibles.

9                                   **V.    CONCLUSION**

10   **Q.    PLEASE SUMMARIZE YOUR TESTIMONY.**

11   A.    In order to determine whether an efficient CLEC can profitably serve mass-  
12           market customers in New Mexico, AT&T developed the Business Case Analysis  
13           Tool (BCAT). The BCAT estimates the total revenues and costs that an efficient  
14           CLEC would expect to incur if it used UNE-L and CLEC-owned switching to  
15           serve mass market customers in New Mexico.

16           The BCAT relies upon inputs and is consistent with the DS0 Impairment Tool  
17           that is discussed in the testimony of Douglas Denney. The BCAT estimates the  
18           revenues and other costs not considered in the DS0 Impairment Tool that would  
19           be incurred by an efficient CLEC over a ten year planning horizon.

20           The BCAT analysis demonstrates that an efficient CLEC would realize substantial  
21           negative returns in serving the mass market using CLEC-owned switching. This  
22           result is not surprising in light of the significant cost disadvantage demonstrated

1 by the DS0 Impairment Tool, and confirms the TRO's national finding of  
2 impairment with respect to mass market switching.

3 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

4 **A. Yes.**

**BEFORE THE NEW MEXICO PUBLIC REGULATION COMMISSION**

**IN THE MATTER OF IMPLEMENTATION )  
OF A BATCH CUT PROCESS )**

**Case No. 03-00403-UT**

**AND**

**IN THE MATTER OF IMPAIRMENT )  
IN ACCESS TO LOCAL CIRCUIT )  
SWITCHING FOR MASS MARKET )  
CUSTOMERS )**

**Case No. 03-00404-UT**

**DIRECT TESTIMONY**

**OF**

**ROBERT V. FALCONE**

**ON BEHALF OF**

**AT&T COMMUNICATIONS OF THE MOUNTAIN STATES, INC.**

**NETWORK ARCHITECTURE**

**FEBRUARY 16, 2004**

**NMPRC  
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**D**

**Page 66 of 114**

1 implementation of a new circuit switched network in Canada in a joint venture with  
2 Unitel of Canada and implementation manager for AT&T's conversion of its access  
3 network to SS7 out-of-band signaling. In 1994, I was promoted to a District Manager  
4 responsible for headquarters support of AT&T's local market network  
5 implementation. In 1997, I was promoted to a Division Manager responsible for  
6 supporting the AT&T regions with local market entry initiatives. I retired from  
7 AT&T in June of 1998. After retiring from AT&T, I have worked as a self-employed  
8 consultant for numerous clients including: AT&T, CompTel, BearingPoint (formerly  
9 KPMG Consulting) and Liberty Consulting. While working as a subcontractor with  
10 BearingPoint I was the group leader for BearingPoint's Systems Engineering  
11 Organization on the ILEC Operational Support System (OSS) testing team. In this  
12 role I was responsible for the test planning, test bed development and test execution  
13 for BearingPoint's various ILEC OSS 271 testing efforts, including the Regional  
14 "ROC" test of Qwest's OSSs.

15 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

16 A. The differences in the way end users' loops are connected to ILEC switches and the  
17 way they are connected to CLEC switches are among the most important factors that  
18 cause CLECs to face substantial operational and economic entry barriers when they  
19 seek to offer Plain Old Telephone Service ("POTS") to mass-market (residential and  
20 small business) customers using their own switches and ILEC-provided loops (i.e.,  
21 via unbundled network element-loop or "UNE-L" facilities-based entry).

1       Accordingly my testimony:

- 2       • Compares the significantly different network architectures available to an ILEC
- 3       and a CLEC when each wishes to use an ILEC-owned voice-grade loop to
- 4       connect a mass market customer with its respective switch to provide POTS; and
- 5       • Provides an overview of the network architecturally-based operational and
- 6       economic entry barriers to successful UNE-L facilities-based entry.
- 7       • Submits an illustrative aid in the form of a DVD describing the CLEC network
- 8       and hot cut process. *See Exhibit 1.*

9       **Q.   DID THE FCC MAKE ANY FINDINGS IN THE TRIENNIAL REVIEW**  
10       **ORDER (“TRO”) REGARDING THE ISSUES YOU DISCUSS?**

11      A.   Yes. The FCC found on a national basis that CLECs are impaired in serving the mass  
12      market in the absence of unbundled ILEC switching.<sup>1</sup> This finding was based on an  
13      analysis that began with the simple, self-evident proposition that CLECs cannot use  
14      their own switches, in lieu of the ILECs’, unless they can connect their switches to  
15      their end-users’ loops. The FCC explained:

16               Competitive LECs can use their own switches to provide services only  
17               by gaining access to customers’ loop facilities, which predominately,  
18               if not exclusively, are provided by the incumbent LEC. Although the  
19               record indicates that competitors can deploy duplicate switches  
20               capable of serving all customer classes, without the ability to combine  
21               those switches with customers’ loops in an economic manner,  
22               competitors remain impaired in their ability to provide service.  
23               Accordingly, it is critical to consider competing carriers’ ability to  
24               have customers’ loops connected to their switches in a reasonable and  
25               timely manner.<sup>2</sup>

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<sup>1</sup> TRO at ¶¶ 422 & 459.

<sup>2</sup> TRO at ¶ 429 (emphasis added).



1 To emphasize the importance of the ability of CLECs to connect their switches to the  
2 loops of their end-users, the FCC noted that no party disputed that competitors need  
3 access to the ILECs' loops to compete in the mass market.<sup>3</sup>

4 **Q. WHAT DO THE ISSUES YOU WILL DISCUSS HAVE TO DO WITH THESE**  
5 **FINDINGS BY THE FCC?**

6 **A.** As discussed in the testimony of William H. Lehr and Lee L. Selwyn, the absolute  
7 cost disadvantages experienced by CLECs trying to serve mass market customers  
8 using UNE-L make it impossible to combine UNE loops and CLEC switches in an  
9 economic manner. Those cost disadvantages result in large part from the differences  
10 in network architecture that are the subject of my testimony.

11 In fact, the FCC found that the failure of CLECs to utilize their existing enterprise  
12 switches to be probative evidence of significant barriers making entry uneconomic.

13 We found significantly more probative the evidence that in areas  
14 where competitors have their own switches for other purposes (e.g.,  
15 enterprise switches), they are not converting them to serve mass  
16 market customers and instead relying on unbundled loops combined  
17 with unbundled local circuit switching. Given the fixed costs already  
18 invested in these switches, competitors have every incentive to spread  
19 the costs over a broader base. Their failure to do so bolsters our  
20 finding that significant barriers caused by hot cuts and other factors  
21 make such entry uneconomic.<sup>4</sup>

22 We find . . . that the fact that competitors have not converted  
23 unbundled loops combined with unbundled local switching or served  
24 residential customers with existing switches only serves to  
25 demonstrate the barriers to such service.<sup>5</sup>

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<sup>3</sup> TRO at n. 1316.

<sup>4</sup> TRO at ¶ 447, fn.1365.

<sup>5</sup> TRO at ¶ 449, fn.1371 (citations omitted).

1 In addition, these network architecture issues are relevant to understanding the batch  
2 cut process and to understanding the operational impairment CLECs face. They also  
3 are important to understanding how to categorize carriers as part of the FCC's trigger  
4 analysis.

5 **Q. FROM A NETWORK ARCHITECTURE PERSPECTIVE, WHAT IS THE**  
6 **FUNDAMENTAL OR CENTRAL PROBLEM THAT CAUSES CLECS TO BE**  
7 **IMPAIRED IN THEIR ABILITY TO SERVE MASS MARKET CUSTOMERS**  
8 **USING UNE-L?**

9 A. As discussed in detail below, the central problem is that the ILECs' legacy network  
10 architecture was designed to support a single regulated monopoly provider, not a  
11 competitive market with multiple service providers seeking access to the ILEC's  
12 loops. This architecture allows an ILEC to connect its legacy loops to its own  
13 switches within the ILEC's wire center to provide service to end user customers.  
14 However, the legacy ILEC network architecture provides an inefficient and  
15 uneconomic means for a CLEC that tries to connect those same loops to its switch  
16 which, in New Mexico, is always remotely located from the ILEC central office  
17 where these loops terminate. This fundamental structural difference creates  
18 overwhelming operational and economic advantages for the ILEC – advantages that  
19 make it both impractical and uneconomic for CLEC competitors to compete with the  
20 ILEC to serve mass-market customers ubiquitously using a UNE-L architecture.

1    **Q.    WHAT ARE THE KEY COMPONENTS OF THIS STRUCTURAL**  
2    **DISADVANTAGE?**

3    **A.    There are five key components to this structural disadvantage.**

4           First, a CLEC must incur the time and cost to install and maintain a significant  
5           "backhaul" network infrastructure to connect its switch to the ILEC loops that  
6           terminate in the ILEC's wire center, which may also be referred to as a central office  
7           ("CO") or local serving office ("LSO"). The ILEC has no such need for backhaul  
8           facilities. As the FCC explained in the TRO, "The need to backhaul the circuit  
9           derives from the use of a switch located in a location relatively far from the end user's  
10          premises, which effectively requires competitors to deploy much longer loops than  
11          the incumbent."<sup>6</sup> These CLEC backhaul costs include the non-recurring costs  
12          necessary to establish a collocation arrangement in every ILEC wire center in which  
13          the CLEC wishes to offer mass market services, the recurring costs paid to the ILEC  
14          for maintaining these collocation arrangements, as well as the transport equipment  
15          and facilities necessary to extend the ILEC's loops to the remotely located CLEC  
16          switch.

17          Second, a CLEC using UNE-L must aggregate traffic from many locations to achieve  
18          the same switch economies of scale realized by an ILEC at a single location. This  
19          forces the CLEC to incur its backhaul cost disadvantage in many wire centers to  
20          achieve the type of switch scale economies that the ILEC achieves at a single wire  
21          center.

---

<sup>6</sup> *TRO* at ¶ 480 (citations omitted); *see also TRO* at ¶ 464, n. 1406; *TRO* at ¶ 424, n. 1298; and *TRO* at ¶ 429.

1 Third, the CLEC must pay the ILEC for transferring loops from the ILEC switch to a  
2 CLEC collocation facility, or from one CLEC to another. This transfer process,  
3 commonly known as a "hot cut," also forces the CLEC's customers to suffer an  
4 inferior experience in converting to the CLEC's service compared with the treatment  
5 they can receive using UNE-P, or that interexchange carriers -- including the ILECs --  
6 can offer customers using the Primary Interexchange Carrier ("PIC") change process  
7 for allowing customers to change their long distance service provider.

8 Fourth, because of the way ILECs have chosen to provision UNE-Ls that pass  
9 through integrated digital loop carrier ("IDLC") systems, CLECs may be precluded  
10 from serving an entire segment of retail customers unless the ILEC has the spare non-  
11 IDLC loop plant in place to replace these customer's lines so that they are eligible for  
12 a UNE-L migration to a CLEC.

13 Finally, because the CLECs do not have the traffic volumes that the ILEC does, they  
14 cannot efficiently exchange inter-switch traffic at a switch-to-switch level. As a  
15 result the CLECs will be reliant on the ILEC's tandem network for the exchange of  
16 this traffic. This reliance will both increase CLEC costs and potentially cause CLECs  
17 to experience additional operational impairments, such as inadequate subtending  
18 trunking.

19 **Q. PLEASE DESCRIBE HOW THE REMAINDER OF YOUR TESTIMONY IS**  
20 **ORGANIZED.**

21 **A. Section II** provides a historical overview of how the ILECs' networks developed and  
22 the principles underlying their evolution in a monopoly environment.

1       **Section III** describes how end-user locations are connected to ILEC switches and  
2       why that service configuration has serious implications for mass-market competition.

3       **Section IV** describes CLEC networks and how the incumbents' closed and integrated  
4       network architecture causes quantifiable and significant cost, operation disadvantages  
5       and barriers for a new entrant.

6       **Section V** briefly describes the impairment created by the way ILECs deploy IDLC  
7       technology and have chosen to provision UNE-L around it.

8       **Section VI** provides my concluding opinions.

9                   **II.     PRINCIPLES UNDERLYING THE DEVELOPMENT OF ILEC**  
10                   **NETWORKS**

11   **Q.     PLEASE PROVIDE AN OVERVIEW OF THE PRINCIPLES UNDERLYING**  
12       **THE HISTORICAL DEVELOPMENT OF ILEC NETWORKS.**

13   **A.     The essence of the telephone network is *connecting* one party to another, whether**  
14       **they are physically located near each other or separated by considerable distance.**  
15       **There is value in merely being *able* to call any party on the network, or likewise**  
16       **being *able* to receive calls from any party on the network. In theory, the more parties**  
17       **that can be reached, the greater the value of the network. The nature of voice**  
18       **communication is that even brief conversations, such as emergency calls, can be of**  
19       **great value. Telephone networks are predominantly designed to facilitate relatively**  
20       **short, private, one-to-one, bidirectional communications. The telephone network**  
21       **must stand ready to complete any particular call (or tens of millions of calls) at any**

1 **VI. CONCLUSION**

2 **Q. CAN THE FUNDAMENTAL CHARACTERISTICS OF THE EXISTING**  
3 **SINGLE-USE ILEC NETWORK BE MITIGATED WITHOUT**  
4 **TECHNOLOGICAL CHANGE?**

5 A. No. Until the underlying local network architecture that has created these  
6 impairments is changed, CLECs will continue to face significant practical and  
7 economic impairments in serving mass-market end-users on ILEC loops *via* their own  
8 switches.

9 **Q. PLEASE SUMMARIZE THE CRITICAL ISSUES YOU DISCUSS IN YOUR**  
10 **TESTIMONY.**

11 A. The critical issue of this proceeding is not whether CLECs can "deploy" their own  
12 switches. Instead, the critical issue upon which this Commission should focus is  
13 whether a CLEC can "efficiently use" its own switch to connect to the local loops of  
14 end users. The differences in the way end users' loops are connected to carriers'  
15 switches are among the most important factors that cause CLECs to face substantial  
16 operational and economic entry barriers when they seek to offer POTS to mass-  
17 market (residential and small business) customers using their own switches and  
18 ILEC-provided loops (i.e., UNE-L facilities-based entry). The barriers to which I  
19 refer relate primarily to the requirements that CLECs backhaul UNE-L traffic from  
20 the serving ILEC wire center to the CLEC switch.

21 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

22 A. Yes, at this time.

**BEFORE THE NEW MEXICO PUBLIC REGULATION COMMISSION**

**IN THE MATTER OF IMPLEMENTATION  
OF A BATCH CUT PROCESS**

**Case No. 03-00403-UT**

**and**

**IN THE MATTER OF IMPAIRMENT IN ACCESS  
TO LOCAL CIRCUIT SWITCHING FOR  
MASS MARKET CUSTOMERS**

**Case No. 03-00404-UT**

**DIRECT TESTIMONY OF**

**TIMOTHY J GATES**

*Operational Impairment*

**ON BEHALF OF**

**WORLDCOM, INC. (MCI)**

**PUBLIC VERSION**

**February 16, 2004**

47       **Q.     WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

48       A.     At paragraph 419 of its *Triennial Review Order*,<sup>1</sup> the Federal Communications  
49           Commission ("FCC") found, on a national basis, that competitive local exchange  
50           carriers ("CLECs") are impaired without access to unbundled local switching  
51           when attempting to serve the "mass market."<sup>2</sup> The FCC pointed specifically to  
52           certain economic and operational criteria that served as the basis for its  
53           impairment finding, and asked state commissions to review these issues in more  
54           detail as they contemplate whether the finding of impairment should be  
55           overturned in any of the telecommunications markets within their jurisdictions.  
56           *See Triennial Review Order* ¶ 493. At paragraph 476 of the *Triennial Review*  
57           *Order*, the FCC describes a number of economic and operational factors,  
58           including for example, issues related to incumbent local exchange carrier  
59           ("ILEC") unbundling performance, collocation and the lack of processes and  
60           procedures facilitating the transfer of loops from one CLEC's switch to another  
61           CLEC's switch. The FCC specifically identified these types of issues as those it  
62           believed could add to the impairment faced by CLECs attempting to provide  
63           services via UNE loop ("UNE-L") as compared to the relative ease with which  
64           CLECs can provide such services utilizing the UNE platform ("UNE-P").<sup>3</sup>

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<sup>1</sup> *In the Matter of Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers, Implementation of the Local Competition Provisions of the Telecommunications Act of 1996, and Deployment of Wireline Services Offering Advanced Telecommunications Capability*, CC Docket Nos. 01-338, 96-98 & 98-147, Report and Order and Order on Remand and Further Notice of Proposed Rulemaking, FCC 03-36, ¶ 3 (rel. Aug. 21, 2003) ("*Triennial Review Order*" or "*TRO*").

<sup>2</sup> Enterprise market customers are those that could be economically served by a DS1 loop, even if they presently are being served by DS0 loops. Mass market customers are those that could not be economically served by a DS1 loop.

<sup>3</sup> UNE-P is simply the CLEC using an existing Qwest finished service which includes the unbundled loop, transport, line port and local switching. In Qwest's Wholesale Product Catalog, UNE-P is defined as:



Qwest Corporation ("Qwest") has requested the New Mexico Public Regulation Commission ("Commission") to enter a finding of "non impairment" with respect to unbundled local switching for mass market customers in the Albuquerque Metropolitan Statistical Area ("MSA") and possibly the Santa Fe, Las Cruces and Farmington MSAs and to remove unbundled local switching ("ULS") from the list of available unbundled network elements ("UNEs").<sup>4</sup> The purpose of this testimony is to describe why operational, network, and technological factors give rise to impairment, and to describe how CLECs generally, and MCI specifically, are impaired in their effort to serve the mass market without access to ULS in today's environment. This testimony also describes ways in which many of the factors leading to today's impairment can be overcome with active oversight on the part of the Commission and cooperation of the industry.

**Q. BEFORE SUMMARIZING YOUR TESTIMONY, DO YOU HAVE ANY GENERAL COMMENTS?**

A. Yes. I believe it is critical to highlight the fact that UNE-P is successful today as a tool for mass market competition in large part because (1) a host of talented people and an enormous number of resources (Commission resources, CLEC resources, Attorney General's Office resources and Qwest resources alike) were dedicated to its development as a commercially viable delivery platform over a period of many years (with the last four years exhibiting the most focused efforts),

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"Qwest provides UNE-P POTS combinations as a finished service to end-users *on behalf of CLECs*. UNE-P POTS provides service similar in functionality as Qwest's retail residential and business services." (emphasis added)

<sup>4</sup> See, Qwest's Initial Status Report, filed with this Commission in this docket on December 19, 2003.